

We've finished the May 24, 2016 Bulletin 120 (B120) forecast update. The forecasts include observed conditions through the morning of May 24, 2016. The forecasts are posted at: <http://cdec.water.ca.gov/cgi-progs/iodir?s=b120up>.

Forecast Summary:

There have been extraordinary drops in the forecast compared to last week. After 4 years of record drought, it appears that a significant portion of the potential runoff is being lost to infiltration and the dry soils. This became more evident recently as recedence, after the peak flows, were steeper than earlier projections. Lower than expected flows in May results in reduced forecasted flows for June and July due to the need to preserve a resemblance to the historical month-to-month recedence pattern. The May flows have had a much larger effect on the revised forecast than the modest precipitation event that occurred. Consequently, the expected median April-July runoff in the major Sierra river basins included in this forecast update range from 39 percent on the Tule River to 87 percent on the Stanislaus River. All forecasts decreased except for the Kings River (the forecast was unchanged). The largest drop was for the Feather basin which was lowered 13 percent. All forecasts for rivers north of the Merced River dropped at least 9 percent except for the Stanislaus which dropped 7 percent. For the Tulare Lake region, the April-July forecast drop was 2 percent. The Kaweah forecast dropped 5 percent.

Runoff:

Through the first 24 days of May, no river's flow is greater than 80 percent of the average May rate except for the Mokelumne, Stanislaus, and the Tuolumne rivers (slightly less than 85 percent of average). All rivers north of the Mokelumne are flowing at a rate less than 75 percent of average. The percent-of-average flow for rivers south of the Merced are less than or equal to 70 percent except for the Kings river which is flowing at about 75 percent of average.

Precipitation:

The precipitation over the Sierra during May is below normal.

Region/Index	WY accumulated precipitation in percent of average (inches) through May 25, 2016	May 1-25, 2016 accumulated precipitation in percent of average (inches) total for May
Northern Sierra 8-Station Index	120 (56.7 inches)	95 (2.1 inches)
San Joaquin 5-Station Index	102 (39.3 inches)	39 (0.7 inches)
Tulare Basin 6-Station Index	92 (25.5 inches)	27 (0.3 inches)

Snowpack:

The snow continues to melt off at a strong and steady pace in most mountainous regions of the state. The snowpack as of the morning of May 25, 2016 stands at the following (based on snow sensors):

Region	Snow Water Equivalent (inches)	% of Average (Apr 1)	% of Average (May 25)
Northern	2.8	10	31
Central	4.6	16	37
Southern	2.6	10	21
Statewide	3.5	12	29

Of the total 129 active snow sensors in the network, 20 are not functioning properly and have been “shut off”. Out of the 109 remaining sensors deemed to be functioning well or fairly well, about one-third are still reporting snow. A majority of these are at higher elevations or north-facing aspects and are located in or south of the Mokelumne River watershed. With the exception of a few snow sensors, nearly every pillow shows complete melt out for the Trinity through American River watersheds. Along with the aforementioned steep recedence in snow melt runoff during May, the lack of snow in these watersheds factored into the decision to lower their respective median April-July forecasts.

Weather and Climate Outlooks:

The 6-day weather forecast suggests some uncertainty in the weather models resulting in a forecast for light, scattered precipitation at only a handful of locations in the Central, Southern, and Eastern Sierra Nevada. The forecast for the Northern Sierra is dry. In general, the weather will get warmer and drier as compared to this past week with freezing elevations gradually increasing beyond 13,500 feet for the entire mountain range. Temperatures throughout the Sierra Nevada will generally hover around average or within a few degrees above average for both the daily maximum and minimum temperatures.

The NWS Climate Prediction Center (CPC) one-month outlook for June, issued May 19, indicates increased chances of above normal temperatures statewide. The same forecast indicates equal chances of above or below normal precipitation statewide.

The CPC three-month (June-July-August) outlook, issued May 19, indicates increased chances of above normal temperatures statewide. The same forecast indicates equal chances of above or below normal precipitation statewide.

El Niño is weakening. Positive equatorial sea surface temperature (SST) anomalies are diminishing across the equatorial Pacific Ocean. La Niña is favored to develop during the Northern Hemisphere summer 2016, with about a 75% chance of La Niña during the fall and winter 2016-17.

Next Update:

The next Bulletin 120 update for conditions as of May 31 will be available Jun 2. If you have any questions regarding this forecast, please contact a member of the Snow Surveys staff.